

## **I. INTRODUCTION**

### **A. ACKNOWLEDGMENTS**

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## **B. PREFACE**

The Sand Hollow Recreation Area (Sand Hollow RA) has the potential to become one of Utah's most unique recreation areas. Several attributes set the Sand Hollow RA apart from other recreation areas. It is probably Utah's only recreation area that can accommodate such a broad-base of use: water-based recreation, off-highway vehicle use, equestrian activities, hiking, biking and camping, among others.

Secondly, it will be managed in a truly cooperative fashion. The Utah Division of Parks and Recreation will manage the area in partnership with the Bureau of Land Management and the Washington County Water Conservancy District.

The Sand Hollow RA will be linked to other recreational opportunities with the greater Washington County area. As a consequence, not only does it have the potential to become a major destination point, it will likely establish itself as the predominant recreation area in the rapidly growing St. George area. Its establishment will thus serve as a buffer to urban growth and help ensure that Washington County retains unique recreational opportunities that enhance residents' quality of life.

Finally, the area's vast land base - approximately 21,000 acres - provides visitors not only with a wide range of activities, but will allow them to experience unparalleled scenic beauty as they recreate within uncrowded and clean surroundings.

Cooperative planning for such an outstanding recreational asset is essential to ensure that state, local, federal and private funds are efficiently and effectively allocated to meet the recreating public's demands. It is also necessary for the long-term protection and public enjoyment of Sand Hollow's facilities and its unique resources.

This **Recreation Management Plan (RMP)** is required by the Sand Hollow RA's managing partners - the Utah Division of Parks and Recreation, The Washington County Water Conservancy District and the federal Bureau of Land Management and their respective governing boards or authorities - to guide short and long term site management and capital development. The planning process recommends necessary actions and a future vision for the area. Specifically, the process: **(1) recognizes impacts will result from use and enjoyment of the site; (2) identifies the various recreational activities, policies, programs and facilities while providing reasonable protection of the resources for future visitors; (3) seeks sustained quality and value; and (4) seeks to determine the conditions under which this can be attained.**

A Sand Hollow Recreation Management Team, consisting of community leaders, potential recreationists, local residents and agency representatives, was formed to develop a vision for the proposed area, identify issues, and provide managerial recommendations. The team developed a future vision to guide management actions at the Sand Hollow RA. Under this vision, it was determined that all activities should:

- C Provide for clean, easily accessible facilities, areas and programs accommodating a broad range of use;
- C Develop well-designed, well-maintained facilities that minimize congestion and user conflict;
- C Ensure that development enhances the area's aesthetic and scenic values and is consistent with adjacent land use;
- C Enhance visitor knowledge of the Sand Hollow RA's recreational opportunities, its resources, and safety issues;
- C Provide appropriate private concession opportunities;
- C Secure a professional, friendly customer service-oriented staff.

Team recommendations were reached by consensus and included input from the public and other government agencies. These recommendations will guide management of the Sand Hollow RA over the next several years. They are intended to be dynamic and will evolve concurrently as individual portions of the vision statement are achieved.

Recommendations contained within the plan will be implemented under the direction of the Water District, the BLM and State Parks. This plan is intended to be a useful, workable document that will guide management of the Sand Hollow RA into the 21<sup>st</sup> century. Actions proposed on public lands administered by BLM will be addressed in an appropriate level analysis, as required under the National Environmental Policy Act, prior to BLM's adoption of those portions of this plan that fall under federal jurisdiction.

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## **II. EXECUTIVE SUMMARY**

The 32 square mile Sand Hollow Recreation Area (Sand Hollow RA) will provide visitors with opportunities to experience an array of diverse recreation activities in scenic, clean and uncrowded surroundings. The Sand Hollow RA is the product of an effective cooperative planning, management and operations effort between the Washington County Water Conservancy District (Water District), the Utah Division of State Parks (State Parks) and the Bureau of Land Management's St. George Field Office (BLM). These three agencies - working in conjunction with local stakeholders, a citizen-based planning team and the public-at-large - developed this Recreation Management Plan to identify necessary recreational activities, programs and facilities effectively linking the Water District's 4,047 acre Sand Hollow reservoir site with 16,564 acres of the BLM's 40,725 acre Sand Mountain Special Recreation Management Area. This linkup resulted in the creation of the Sand Hollow RA, a unique recreational site that will provide clean, accessible facilities and will include a broad array of programs and activities to effectively meet the needs of boaters, motorized and non-motorized users, campers and anglers.

The Sand Hollow RA's Sand Hollow Reservoir will become the area's predominant water-based recreation area. At capacity, the reservoir will cover a surface area of approximately 1,324 acres - the largest body of water within Washington County. Reservoir development will include:

- C Two developed campgrounds;
- C A full-service marina with adequate parking and concession opportunities;
- C A group campground and;
- C Four separate day use areas with sheltered facilities and wide-ranging amenities.

Sandy beaches along with areas designated for specific uses such as fishing, water-sports and events will make the reservoir a unique, accessible water-based visitor experience.

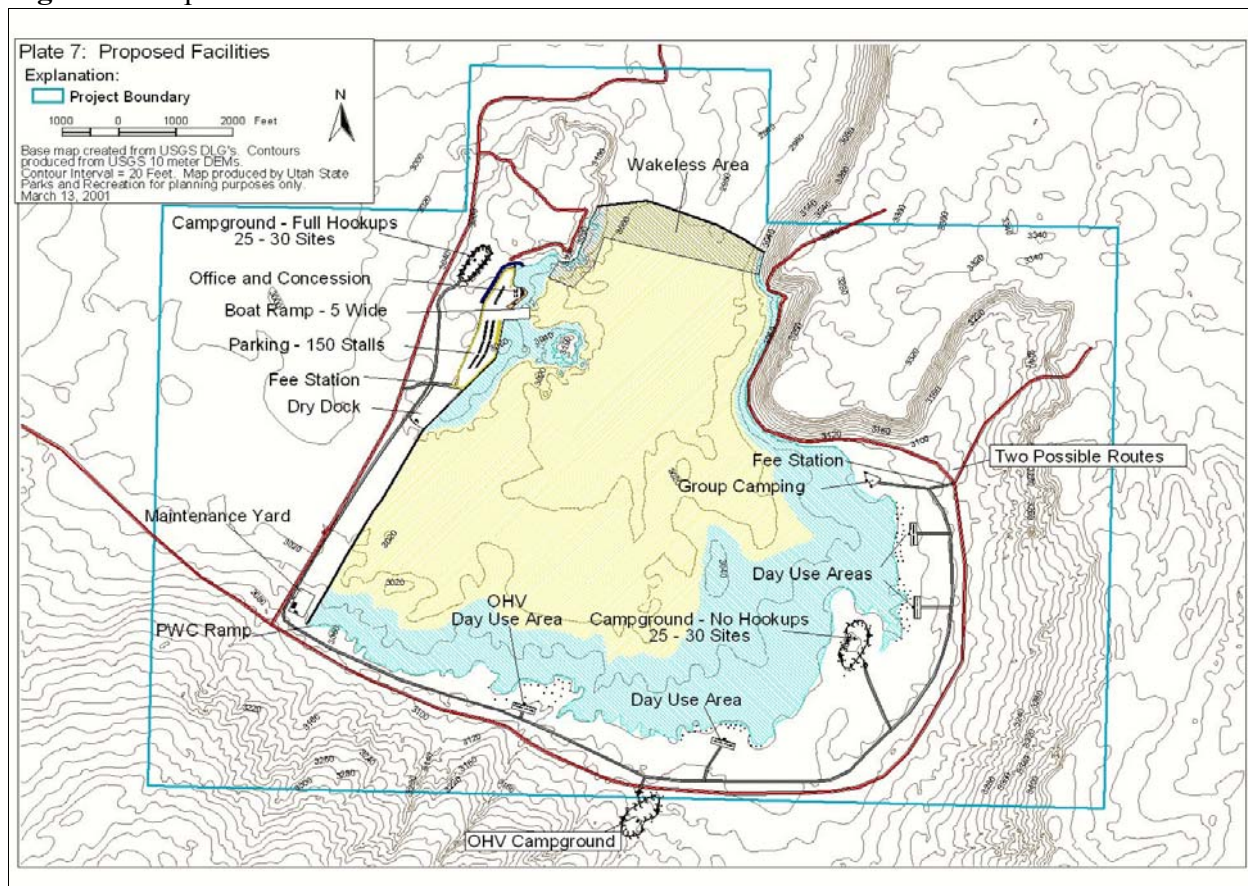
The 16,564 acre Sand Mountain parcel will provide opportunities for off-highway vehicle (OHV) enthusiasts, horseback (equestrian) riders, and hikers to recreate in a scenic dune and cliff environment. The large area will accommodate diverse uses with minimal conflict - both among

users and upon area resources. Development within the Sand Mountain will be minimal. It will include:

- C A 25-site campground with amenities;
- C Staging areas to accommodate equestrian and motorized access on Sand Mountain and;
- C Linked trail development to designated areas near the reservoir.

User information and education issues surfaced as the primary planning needs identified for the Sand Mountain Area. Information regarding trails, distances, regulations, safety and

**Figure 1: Proposed Sand Hollow Recreation Area Facilities**



direction/location will need to be developed and effectively displayed. Visitors will be directed to points of interest most consistent with their particular recreational needs. The plan also calls for the implementation of informational programs that educate users about the importance of resource protection and user etiquette to minimize conflicts with area resources and other users.

The Sand Hollow Recreation Management Planning Team - a citizen-based team - was at the core of the Sand Hollow RA planning process. The team included local boaters, motorized and non-motorized trail users, local law enforcement officials and representatives from Hurricane City, the Water District and State Parks.

The planning process was based on public input and involvement. The recommendations contained in this document represent several months of work by the team as well as direct public input. Moreover, this recreation plan is an extension of two comprehensive resource management plans: the BLM's St. George Field Office Record of Decision and Resource Management Plan approved in 1999; and the Water District's Sand Hollow Reservoir Project Report issued in 1997. These two plans provide an inventory of area resources, define resource protection strategies and recommend appropriate recreation activities for the area. These documents form the regulatory baseline for recommended actions. Proposed activities are consistent with and supportive of these earlier plans.

This plan provides recommendations which are founded upon six primary vision elements that will guide future management of the Sand Hollow RA. These elements focus on:

- C Providing for clean, easily accessible facilities, areas and programs accommodating a broad range of use;
- C Developing well-designed, well-maintained facilities that minimize congestion and user conflict;
- C Ensuring that development enhances the area's aesthetic and scenic values and is consistent with adjacent land use;
- C Enhancing visitor knowledge of the area's recreational opportunities, its resources, and safety issues;
- C Providing appropriate private concession opportunities;
- C Securing a professional, friendly customer service-oriented staff.

These elements are geared toward providing visitors with a broad array of safe and enjoyable recreation experiences in a clean, well-designed and well-organized atmosphere. Achievement of these vision elements will require the continued support of users, community leaders and the area's managing partners.

The planning team recommended the Sand Hollow RA be included in the state park system under the auspices of State Parks. As with nearby Quail Creek State Park, the Washington County Water Conservancy District will administer lands and facilities around the Sand Hollow RA's Sand Hollow Reservoir area. Day-to-day management of these lands and facilities will be the responsibility of State Parks. Similarly, while BLM will continue to administer the Sand Hollow RA's Sand Mountain parcel, both BLM and State Parks will jointly manage recreation activities within this area. BLM will also work cooperatively with State Parks to achieve development goals on Sand Mountain.

Under this managing partnership, the planning team issued several specific recommendations in support of the plan's vision elements. Six recreation/operations issue areas form the basis of the team's recommendations:

- C     **SURFACE BOATING AND PERSONAL WATERCRAFT (PWC)**
- C     **NON-MOTORIZED RECREATION**
- C     **MOTORIZED RECREATION**
- C     **FISHING AND WILDLIFE RECREATION**
- C     **OPERATIONS MANAGEMENT**
- C     **FACILITIES DEVELOPMENT**

Implementing recommendations will be dependent upon acquiring new funding sources. There may be keen competition for funding or other unforeseen priorities and contingencies that could affect implementation.

The plan's success is dependent upon the continued support of area stakeholders, users and managing agencies. Efforts must be made to preserve area resources, interact with local communities and strive to meet visitor expectations. The recommendations contained within this plan were based upon an open and collaborative process. It is imperative that this collaborative spirit continue as the plan's components are implemented.

### **III. MISSION AND VISION**

## Mission Statement:

The mission of the Sand Hollow Recreation Area is to provide visitors a wide variety of safe, accessible, educational and satisfying recreational experiences, develop facilities that meet user needs and enhance the area's aesthetic values while minimizing conflict and congestion, and secure a professional staff that will provide superior customer service.

### **A. MISSION STATEMENT**

Team members developed the mission statement on the premise that Sand Hollow is a unique site for recreation that has the potential to offer visitors a wide variety of uses with minimal conflict or congestion. The area is distinctive since it has a sufficient land and water base to accommodate water-related recreation, day-use activities, camping, motorized recreation, non-motorized use and a number of other activities. Not only will it serve as a site for a growing local population, it will become a major destination point for visitors from outside of the area.

## Vision Statement:

The future vision of the Sand Hollow Planning Team is to:

- Provide for clean, easily accessible facilities, areas and programs accommodating a wide array of diverse recreational opportunities, activities and events;

- Develop facilities that are well-designed, well-maintained and adequately meet the user's diverse recreation needs while minimizing congestion and user conflict;

- Ensure that development enhances the area's aesthetic and scenic values and is consistent with adjacent land use;

- Enhance visitor knowledge of the area's recreational opportunities, its resources, and safety issues;

- Provide private concession opportunities, where appropriate, to meet the needs of the various recreation users at the site;

- Ensure that Sand Hollow RA staff meets or exceeds visitor expectations by providing professional, friendly and helpful customer service



**B. VISION STATEMENT**

To ensure that recommendations are consistent with this broad mission, team members developed a vision statement to provide more specific guidance. A vision statement is similar to a compass; it charts a destination, sets the team on the correct course of action, and it provides the means to determine how closely team recommendations will follow that charted course. The Vision Statement's objectives help ensure that the managing partners effectively capitalize upon Sand Hollow's unique attributes.

The team determined that facilities, recreation areas, and programs should be effectively developed to meet the various user needs. Team members also felt that facility design and program implementation should minimize potential user conflicts and protect area resources. To effectively carry out these objectives, recommendations are focused on enhancing visitor knowledge of area resources, activities and safety issues. These vision elements provide the foundation for recommendations to meet the various demands that will inevitably impact the Sand Hollow site.

## **IV. RESOURCE MANAGEMENT PLAN PURPOSE AND PROCESS**

### **A. PURPOSE OF THE PLAN**

This Recreation Management Plan is intended to provide guidance for Sand Hollow's Managing Partners - the Water District, State Parks and the BLM. The plan effectively defines the stewardship obligations of each managing agency.

Sand Hollow will become one of Utah's most visited recreation areas. Annual visitation rates of more than 500,000 people are possible within the first few years of operation. Moreover, Sand Hollow's vast 20,611 acre land base will accommodate a spectrum of diverse recreational use: water-based recreation, off-highway vehicle use, equestrian activities, hiking, biking and camping, among others. Finally, the Sand Hollow RA's land managers - the Water District and the BLM - will need to manage their holdings in a cooperative fashion to effectively achieve the goals outlined in the plan. State Parks will play a complementary role by effectively coordinating the management of these areas with their associated resources and facilities to meet potential visitor demands.

The Sand Hollow RA is situated within easy visitor access of numerous state and national parks, monuments and recreation areas as well as national forests, wilderness areas, and other attractions. The Sand Hollow RA will serve as a linkage to other recreational opportunities with the greater Washington County area. As a consequence, not only does the Sand Hollow RA have the potential to become a major destination area, it will likely establish itself as the predominant recreation area in the rapidly growing St. George area. Its establishment will thus serve as a buffer to urban growth and help ensure that Washington County retains unparalleled recreational opportunities that enhance residents' quality of life.

A number of issues ranging from facilities development and recreation management to staffing, operations and funding were identified by various sources including input from planning team members as well as the public-at-large through focus groups, public meetings and opinion

surveys. Team members developed recommendations for six issue areas: water-based recreation; non-motorized use, motorized recreation; operations management; and facilities development. This plan addresses each of these issue areas. It will provide flexible guidelines for the management and development of the Sand Hollow RA over the next 10 to 20 year period. More importantly, it will provide this direction on the foundation of continued public input and consensus of key stakeholders, working hand-in-hand with the Water District, State Parks and BLM.

## **B. THE PLANNING PROCESS**

Planning for an outstanding recreational resource such as the Sand Hollow RA is required for the protection of this unique area and to ensure the efficient and effective expenditure of state, federal and private funds. It is necessary to determine the recreating public's needs, develop strategies for implementing facilities, programs and related policies and for the long-term protection and public enjoyment of the area's unique resources. Assuming that the Sand Hollow RA will be designated a State Park, this Recreation Management Plan is required by the Utah State Legislature and the Board of the Utah Division of Parks and Recreation to guide short and long-term site management and capital development.

The process is based on input from potential users, area citizens and agency expertise. Issues and recommendations were gathered from a series of public meetings, opinion surveys and focus groups working as adjunct subcommittees to the Recreation Management Planning Team.

In September, 2000 the Water District requested the assistance of State Parks in developing a Recreation Management Plan for the new Sand Hollow reservoir. State Parks agreed to facilitate the development of a Recreation Management Plan to help determine needed facilities, programs, activities, policies, equipment and required staff for the proposed site.

In October 2000, the Water District hosted a meeting for community stakeholders to familiarize them with the proposed process and illustrate the need for creating a plan to guide recreation development at the Sand Hollow Reservoir site. During this meeting stakeholders were asked to

identify community members and various users with an interest and expertise in the proposed area to serve as members of a Recreation Management Planning Team. Team members were selected for their technical expertise in a specific area such as recreation, public safety or public administration. All team members participated on a voluntary basis and expressed a willingness to sacrifice a significant portion of their time and expertise to the process. Eight individuals were selected to serve on the planning team and three representatives from State Parks served as staff to the team.

### **C. PUBLIC INPUT**

In addition to the representative, citizen-based characteristics of the planning team, it was determined that direct public input and involvement would be essential to develop recommendations that are in step with user needs. Opportunities for the public to provide input have been extensive. First, adjunct subcommittees consisting of representatives from various citizen user groups and agency officials were selected to help develop issues and recommendations for five issue areas: facilities development; non-motorized use; motorized use; fisheries and wildlife recreation; and operations management. Secondly, the public was invited to provide comment and feedback regarding Sand Hollow in two public meetings in the St. George area: at the January, 2001 Parks and Recreation Board Meeting; and at a February, 2001 public scoping meeting. An opinion survey was also developed to elicit public input. Finally, copies of this document will be submitted for public review and comment.

#### **1. Public Meeting Results**

A public meeting was held in St. George on February 8, 2001 to inform the public about the planning process and more importantly, to gather input on the types of activities and facilities that need to be included in the proposed planning area. Each participating individual was asked to provide answers to the following questions:

- C     *What are the most important recreational **activities** that should be provided at the **Sand Hollow Reservoir Site**?*
- C     *What are the most important recreational **activities** that should be provided on the adjoining **Sand Mountain Area**?*

- C     *What are the most important recreational **facilities** that should be provided at the **Sand Hollow Reservoir Site**?*
- C     *What are the most important recreational **facilities** that should be provided on the adjoining **Sand Mountain Area**?*

Upon compilation of individual responses, meeting participants were then asked to rank them in order of importance. To do this, participants were allowed to cast “votes” on what they thought were the most important responses under each category. Results of this ranking process are summarized in figure 2 below.

<     ***Preferred Reservoir Activities***

As figure 2 indicates, meeting participants ranked the listed preferred reservoir activities on a fairly equal basis. Participants noted that boating, personal watercraft (PWC) use and sailing were the most important recreational activities that should be provided at the reservoir. This was closely followed by beach use and related activities such as swimming and picnicking. Camping was equally as important as was an expressed preference for unique activities such as scuba-diving and snorkling. Participants also expressed a preference for water-related events (such as waterski competitions or boat racing, for example). Finally, fishing - although ranked last - was still a close competitor in preferred reservoir activities.

<     ***Preferred Sand Mountain Activities***

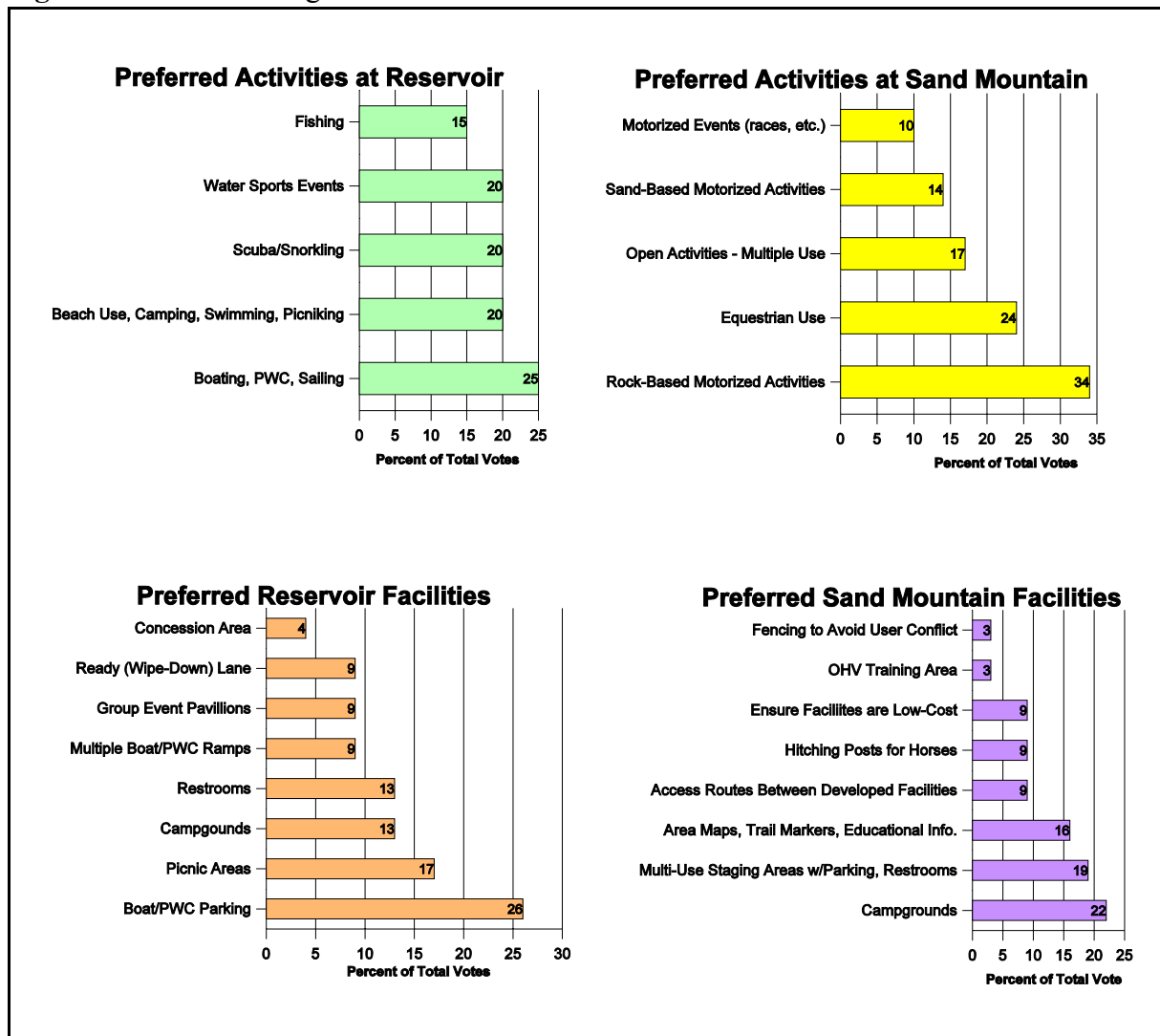
Rock-based motorized activities (trials motorcycle activities, four-wheel drive “rock crawling”, etc.) received the majority of votes as a preferred Sand Mountain recreational activity.

Equestrian (horseback riding) use was next in line receiving approximately one-quarter of



participant votes. This was followed by a general preference - open activities/multiple use -

**Figure 2: Public Meeting Results - Preferred Activities and Facilities**



where participants felt that the BLM's "open" designation of diverse motorized and non-motorized uses on Sand Mountain should remain in effect. Sand-based motorized activities (e.g., dune riding for off-road vehicles [ORVs]) received about 14 percent of the total votes cast. Finally, about 10 percent of the votes were cast in favor of seeing motorized events - races, competition, etc., - occur in the area. Participants also listed hiking, rock climbing and other miscellaneous activities as potential Sand Mountain events. However, none of these activities received a "vote" from meeting participants.

**< Preferred Reservoir Facilities**

Meeting participants voted boat and PWC parking as the reservoir area's most needed facility. This was followed by picnic areas, campgrounds, and restrooms in descending order of preference. Next in order of preference, the group also saw a need for multiple boat/PWC ramps, group pavilions to view water-based events and a "ready lane" that allows boaters to clean and wipe-down their boats after use. Finally, participants felt that a concession area should be provided. Reservoir facilities discussed but not receiving any votes included an entrance station, trash collection service, a first aid station, a golf course and a fish cleaning station.

**< Preferred Sand Mountain Facilities**

Camping dominated the list of facilities preferred for the Sand Mountain area. The group noted that campground development should accommodate multiple uses such as motorized, equestrian and other non-motorized users. Next, in order of preference were staging/parking areas that will allow motorized and non-motorized (primarily equestrian) users to access Sand Mountain. Participants felt these areas should include trash collection and restrooms if possible. Information about Sand Mountain - maps, trail markers and educational information - was next on the priority list. While not a "facility," the group felt that such information is needed and should be provided at or near staging areas or campgrounds. The next three preferred items on the list - hitching posts for horses, provision of access routes between the reservoir and Sand Mountain and development of low-cost facilities were weighted equally. Clearly, the latter item - low-cost facilities - is a conceptual preference. Finally, the group placed equal weight on the need for an OHV training area on Sand Mountain and area fencing - where appropriate - to delineate boundaries and inhibit user conflict. Two other needs: signs to prohibit shooting in adjacent areas and a motocross track were discussed as potential Sand Mountain facilities. However, they received no participant vote.

**V. ABOUT THE SAND HOLLOW RECREATION AREA**

The area that constitutes Sand Hollow RA is host to a wide variety of different uses and

activities. The area has long been used for grazing, motorized and non-motorized recreation, undeveloped camping and sightseeing, among other uses. With the development of the Sand Hollow Reservoir, the area will add culinary water storage, private development and water-based recreation to its long list of diverse uses. This section briefly describes the physical setting, climate, and geographical boundaries of the Sand Hollow RA. It also provides background information on the proposed area's two major components: Sand Hollow Reservoir and Sand Mountain.

### **A. PHYSICAL SETTING**

The Sand Hollow RA is located in southwest Utah approximately fifteen miles east of St. George off State Highway 9. The proposed area will cover approximately 20,611 acres and will include a large portion of the nearby Sand Mountain. The area is noted by its dry, warm desert environment. Sand Mountain will provide visitors with opportunities to recreate in the midst of southwest Utah's noted scenic beauty: reddish-orange dune fields and red cliffs. From Sand Mountain, visitors will be able to experience spectacular scenic views of the Pine Valley Mountains and the Colorado Plateau to the north, Zion National Park to the east and the Arizona Strip to the west.

In addition to water-based recreation, the area will offer excellent opportunities for off-highway vehicle use, horseback riding, hiking, and photography. Moreover, the area is a virtual hub to numerous other recreational opportunities. Zion National Park, Cedar Breaks and Pipe Springs National Monuments, Quail Creek, Snow Canyon, Gunlock, Coral Pink Sand Dunes and Iron Mission State Parks all lie within a 60 mile radius of the area.

### **B. CLIMATE**

The Sand Hollow RA is located in a warm, semi-arid high desert environment marked by low precipitation, a wide daily temperature range, high summer temperatures and mild winters. Average maximum daytime temperatures during the summer months are among the highest in the state. On average, maximum daytime temperatures exceed 92 degrees from June through September. Daily maximums for July average about 100 degrees. Average minimum

temperatures range from about 66 degrees in the summer to about 26 degrees in winter. Average annual precipitation is just above 8 inches per year.

Most precipitation occurs between January and March. While occasional snowfall does occur in the area during the winter, it rarely stays on the ground for an extended period of time.

Monsoonal flow in late summer brings brief but heavy thunderstorms to the area. These intense storms often result in local flash flooding.

Wind, blowing dust, lightning and high temperatures may pose threats to Sand Hollow visitors. Southerly winds preceding a frontal system cause blowing sand and dust. Post-frontal winds funneled down from Black Ridge canyon to the north may exceed 50 mph. High micro-burst winds accompanying summer thunderstorms may also be of concern to area users. More importantly, intense lightning may be a hazard - especially on Sand Mountain's exposed ridge areas. Finally, during the hot summer months, ground temperatures may exceed 150 degrees. Rock formations - volcanic in particular - absorb tremendous amounts of heat. Such high ambient temperatures present potential health risks.

### **C. DETERMINATION OF GEOGRAPHICAL BOUNDARIES**

The planning team consulted with both the BLM's St. George Field Office and the Water District to review land ownership and geographical characteristics of the area. From this review, the team outlined a planning boundary for the proposed Sand Hollow RA that would include approximately 16,564 acres of the 40,725 acre Sand Mountain Special Recreation Management Area (SRMA) currently operated by the BLM as well as the 4,047 acre area owned by the Water District that includes Sand Hollow Reservoir (see Plate 1: *Planning Boundary*).

It was determined that the designated boundary follow the existing ridge lines of Sand Mountain's western, southwestern and southern boundaries. The boundary runs eastward bordering a section of School and Institutional Trust Lands Administration (SITLA) land and intersects private lands in the northeast corner. The northern boundary coincides with the District-owned property on the northeast, north and northwest corners until it intersects BLM

lands near the foot of Sand Mountain's northwestern boundary. The group designated this boundary on the following considerations:

- C Utilize area terrain (e.g., ridge lines, natural contours, etc.) that will provide users with a more "natural"/logical boundary;
- C The designated area is commonly used by OHV enthusiasts and others and would therefore be more "familiar" to many users;
- C Law enforcement, search and rescue efforts will be easier since the area boundary will stop on ridge lines and will not include the precipitous slopes and cliffs that exist on the Sand Hollow RA's southeast boundary (it should be noted that recreational activities may occur beyond these boundaries, but will likely not be included in the range of opportunities found within the Sand Hollow RA);
- C Confining recreational activities to the ridge lines will help minimize human contact with known raptor sites that occur on the area's southeastern cliffs;
- C The designated boundary will help prevent trespass, particularly on SITLA properties within the adjacent Warner Valley area;
- C The boundary will also help avoid disturbance on known archeological sites above the area's northwestern portion.

#### **D. SAND HOLLOW RESERVOIR**

From a recreational perspective, Sand Hollow Reservoir is poised to become the hub of water-based recreation in Washington County and Southwestern Utah. Once completed, Sand Hollow will become the County's largest body of water. Location (close proximity to populated areas), amenable climate, easy access and proximity to other recreation opportunities will likely make Sand Hollow Reservoir one of the most visited recreation areas in the state.

Construction of the Sand Hollow Reservoir facility was initiated in June 2000. The project was originally conceived in the early 1990s as an additional storage reservoir for the Quail Creek system. A land exchange bill passed by Congress in 1996 authorized the Water District to acquire the 4,047 acre site by trading a parcel of its own property (adjacent to Zion National



Park) to the BLM in exchange. A subsequent environmental assessment (EA) was conducted, as required under the federal National Environmental Policy Act (NEPA), to evaluate project-related impacts on sensitive resources. Mitigation measures were developed, as part of the reservoir construction and operation proposal, to lessen effects to significant archeological sites and sensitive wildlife resources. The findings of the EA indicated that resource impacts could be satisfactorily mitigated below the level of significance by the Water District during construction and operation of the reservoir.<sup>1</sup>

The reservoir will consist of two dams, one placed on the north end of the reservoir, the other located on the west end. When completed, the northern dam will have a maximum height of about 97 feet and a total length of 3,000 feet. The west dam will be considerably larger - about 7,500 feet in length and a maximum height of 57 feet. Since Sand Hollow's dams do not lay astride an active river or stream, water to fill the reservoir will be pumped via pipeline from the nearby Virgin River through the existing Quail Creek Diversion. The pipeline will have the capability to send water both directions between the Sand Hollow and Quail Creek reservoir. The District will fill Sand Hollow reservoir during periods of increased flow in the Virgin River between mid-October and mid to late April, and then release water back into the Quail Creek system during the remainder of the year. The project is scheduled to be completed in early fall 2001. Water District officials note it could take from three to five years to fill the reservoir.

The reservoir basin formed by the two dams will have a maximum capacity of about 28,000 acre feet, and will cover a surface area of approximately 1,324 surface acres (see Plate 2: *Sand Hollow Reservoir*). The Water District has designated a "drought pool" (or draw-down level) at an elevation of 3,032 feet mean sea level (msl). This low water level would provide a surface area of approximately 878 acres, or about 64 percent of the full-capacity surface area. The proposed draw-down level should sufficiently support water-based recreation activities without

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<sup>1</sup> Greystone Environmental Planning. (1997). Sand Hollow Reservoir Project Report. (Environmental Assessment prepared for the Washington County Water Conservancy District), pp 4-1, 4-2.

severe impact. The only time lake levels could possibly fall lower than the 3,032 level would be in extreme drought conditions.

## **E. SAND MOUNTAIN**

The 16,564 acre Sand Mountain parcel included in the Sand Hollow RA boundary is a well-defined land unit that contains a combination of attractive, manageable natural features to support a diverse array of recreation use on a sustained basis. OHV riders, horseback (equestrian) enthusiasts, picnickers, and campers seeking an undeveloped/semi-primitive experience frequent Sand Mountain. The area also hosts competitive motorized and equestrian events as well as guided tours and recreation instruction.

As noted above, BLM manages Sand Mountain as part of a 40,725 acre Special Recreation Management Area (SRMA - see Plate 3: *BLM Special Recreation Management Area*). The larger Sand Mountain SRMA also includes the adjacent Dinosaur Trackway paleontologic site, the Fort Pearce historic site and nearby historic trails. While none of these adjacent sites occur within the Sand Hollow RA boundary, BLM suggests that the planning team explore opportunities to link Sand Hollow with these other sites within the larger SRMA. The BLM has committed to work in partnership with the Sand Hollow planning team in developing a recreation plan for Sand Mountain to accommodate increased recreation and OHV use that is expected to occur within the area. In its 1999 St. George Field Office Record of Decision and Resource Management Plan (ROD/RMP), BLM states that:

**“Generally, lands within this [Sand Mountain SRMA] not already identified [in the St. George Field Office RMP] for disposal or included in current exchange agreements will be maintained in public ownership to provide long-term stability for user groups such as the OHV community who, as a result of urbanization and land use restrictions, have lost much of their traditional open use areas.”<sup>2</sup>**

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<sup>2</sup> United States Department of Interior, Bureau of Land Management. (1999). St. George Field Office Record of Decision and Resource Management Plan, Chapter 2, RC-20.

BLM has also committed to cooperatively manage the Sand Mountain area with State Parks in day-to-day operations to achieve consistent policies regarding issues such as access, law enforcement, user fees and visitor services. BLM will also consider leases or conveyances under the Recreation and Public Purposes Act for high-dollar campgrounds or other facilities.

While Sand Mountain serves as a base for a number of different uses, the Sand Hollow Recreation Management Planning Team shares BLM's commitment to reduce potential conflicts between recreation groups, raise public awareness of impacts on established users groups and adjacent landowners and promote an ethic among visitors that instills respect for property and natural resources. Similarly, the team seeks to eliminate unacceptable impacts to public land resources such as wildlife habitat, watersheds, water quality and cultural resources.

The BLM's 1999 St. George Field Office ROD/RMP serves as the regulatory baseline for recommended recreation activities in the Sand Mountain parcel of the Sand Hollow RA. Activities should be consistent with and supportive of this plan. BLM's responsibility will be to evaluate potential recreation developments and activities in the Sand Mountain area and to consider appropriate mitigation strategies under NEPA.

Within the recreation area's designated boundaries BLM recommends that information be made available to ensure that conflicts with flora or fauna do not occur. BLM will work with State Parks, Washington County, the Utah Division of Wildlife Resources (DWR), the U.S. Fish and Wildlife Service and other appropriate agencies to ensure that activities are consistent with the St. George Field Office ROD/RMP. BLM has identified a number of specific issues regarding Sand Mountain grazing, organized events, and land ownership that should be addressed to minimize conflict and negative impact.

## **1. Grazing**

There are two main grazing allotments within the designated recreation area: the Sand Mountain Allotment and the Sand Allotment (see Plate 4: *Grazing Allotments*). The Sand Mountain Allotment is the largest of the two at approximately 15,055 acres, 230 cows and 1,447 Animal

Units/Month (AUMs). It is operated by Spilsbury Development between the months of October and May. Since this allotment encompasses almost two-thirds of the designated recreation area, it will likely receive the highest degree of impact from recreational use.

The BLM notes two distinct issues regarding the Sand Mountain Allotment that should be addressed in the plan. **First**, livestock typically stay in the upper regions of Sand Mountain because of available water resources. However, they will likely be drawn to the reservoir area when the lake is filled. Consequently, fencing will be required around the reservoir areas to minimize recreation and resource conflicts. **Secondly**, as off-highway vehicle (OHV) use increases within the allotment, maintenance and upkeep of pasture fencing will be critical. In addition, structures such as OHV cattleguards may need to be installed at critical areas to minimize potential conflicts.

## **2. Events**

A number of motorized and non-motorized events are expected to continue within the Sand Mountain area. For example, the Color Country Endurance Ride is a major annual equestrian event with routes that cover a large portion of the Sand Mountain area. Likewise, motorized events such as the Rhino Rally are held in the area each February. BLM suggests that semi-permanent routes be established for such events to minimize conflict with other users. BLM will also work with user groups and other interested parties to minimize cumulative impacts to soils and other resources by collaborating with the BLM Arizona Strip Field Office to rotate events among established courses, if needed.

## **3. Land In-Holdings**

Two State and Institutional Trust Lands Administration (SITLA) sections are located within the designated recreation area. These SITLA sections lie at the foot of Sand Mountain south of the reservoir (see Plate 5: *Land Ownership*). BLM notes acquisition of these sections would be in conformance with the approved St. George Field Office ROD/RMP and indicates that such an acquisition should be a top priority issue. BLM has identified parcels in the Curly Hollow area near Bloomington, Utah as possible lands for exchange.

Two private parcels are located within the northernmost SITLA section (see Plate 5). The team recommends that BLM or the State seek ownership/control of uses on such in-holdings by acquisition, exchange, agreement, donation or other such mechanisms.

These actions will help ensure more consistent land use throughout the area. This will also help minimize potential interagency conflicts and restrictions in use. In the event that acquisition or trade efforts fail, BLM recommends that actions be taken to avoid trespass on these parcels.

## VI. VISITOR SURVEY RESULTS

### Sand Hollow Recreation Area "Potential" Visitor Survey Highlights:

- / A vast majority of survey participants intend to visit the proposed Sand Hollow RA
- / Most users will likely participate in water-based recreation and related day-use activities
- / Most visitors will likely be "day-users"
- / A majority of survey respondents support State Parks as the area's primary management entity
- / Survey respondents are willing to pay fees that are in-line with other State Parks

State Parks conducted a survey of potential Sand Hollow RA users between January and March 2001. The survey was implemented to develop a better understanding of visitor needs, concerns, and potential use patterns. More importantly, the survey provides an additional avenue of public input that - as the reader will note in subsequent sections of this document - will help shape the team's recommendations.

The survey targeted individuals with recreation interests that will likely mirror activities offered at Sand Hollow.

Accordingly, the sample population was stratified to represent users with interests in

boating, OHV use, camping, horseback riding (equestrian), hiking, fishing and biking.

The sample strata of Boaters and OHV riders were randomly selected from the state-wide population of registered users. Campers were selected from camping reservation data at nearby Quail Creek State Park. Finally, equestrian users, hikers, anglers and bikers were randomly selected from local organized user groups.

A total of 885 questionnaires were mailed out with 636 returned yielding a 71.9 percent response rate. About 56 percent of the survey respondents were Washington County residents. Another 10.1 percent were from Salt Lake County. Overall, residents from 22 Utah counties and seven other states were represented in the survey. Consequently, the survey results should provide a

representative snapshot of likely user needs and concerns at Sand Hollow.

Respondents noted several items of interest which are summarized below (a complete copy of the survey report is attached in appendix A). This information provides important insight about visitor use patterns, activities, needs and concerns.

**C     *A vast majority of survey participants intend to visit the proposed Sand Hollow RA***

Approximately 80 percent of the respondents indicated that they will likely visit the new area when complete (another 11.3 percent said they were “somewhat likely” to visit). Conversely, only 1.3 percent said they would not visit.

**C     *Most users will likely participate in water-based recreation and related day-use activities***

Over half of the respondents listed picnicking, limited development camping, hiking, swimming, fishing, and boating (pleasure boating, waterskiing, etc.) as their preferred activities.

Accordingly, respondents indicated that boat launching facilities, day-use sites, group-use areas, campsites without full hookups, walking/hiking trails and paved parking are the area’s most needed facilities.

**C     *Most visitors will likely be “day-users”***

On average, survey participants listed their potential length of stay at about 1.3 days. About 55 percent indicated they will likely stay for one day or less. Another 22 percent listed they will stay for two days.

**C     *A vast majority of survey respondents will support the Utah Division of State Parks as the area’s primary management entity***

Respondents were asked if they would be willing to support State Parks as the area’s managing entity. Almost 79 percent responded affirmatively. Of the remaining 21 percent who did not support State Parks management, about 7 percent would prefer Washington County; 4.4 percent prefer BLM; 3.1 percent prefer a private concession and 1.6 prefer the Washington County

Water Conservancy District.

**C      *Survey respondents were willing to pay fees that are in-line with other State Parks***

Almost 55 percent of the respondents would be willing to pay a day-use/entrance fee ranging from \$1.00 to \$5.00. Similarly, the preferred fee for full-hookup camping was within the \$11.00 - \$15.00/per day range. It is interesting to note that the typical day-use/entrance fee for a Utah State Park is \$5 while the daily fee for full-hookup camping ranges from about \$9.00 to \$15.00



## VII. ECONOMIC IMPACTS

Sand Hollow may be responsible for the generation of more than \$3.4 million in income (i.e., wages, rents, interest, profits) and about 77 jobs within Washington County during its first five years of operations. Sand Hollow's impact upon the County may grow to reach \$21 million in income and 478 jobs in a long-term time horizon. An analysis of Sand Hollow's potential economic impacts

upon Washington County was conducted by Dr. John D. Groesbeck of Southern Utah University (a complete copy of this study is attached in appendix B).

### Economic Impacts: Sand Hollow Recreation Area

-Potential Economic Impacts on Washington County:

-Short Run (initial 3-5 years of operation):

- \$3.4 Million in Income

- 77 Jobs

-Long-Term

-Up to \$21 Million in Income

-478 Jobs

The impacts were estimated on the basis of new recreation as opposed to a redistribution of existing spending from other venues. Washington County experienced sharp increases in both population and personal income between 1990 and 1999. County population increased by 65 percent over the period reaching 81,202 in 1999. By 2010, County population will exceed 122,000. Between 1990 and 1999, per capita personal income rose by more than 46 percent. Dr. Groesbeck notes that spending on leisure goods and services tends to outpace income growth.<sup>3</sup> In the short run therefore, new "supplies" of leisure opportunities - such as Sand Hollow - will be needed to meet demand in the County.

Given the growth in the region however, long run impacts could escalate as more and more recreational services are "exported" to visitors residing outside of the County in addition to an increase in spending among new and existing residents.

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<sup>3</sup> Groesbeck, John D., Ph.D.(1999) An Analysis of the Economic Impact of Recreational Use of the Proposed Sand Hollow Reservoir on Washington County, Utah (Analysis Prepared for the Washington County Water Conservancy District), p.2.

Groesbeck divided the analysis into two components: a short-run scenario where impacts accrue within five years of reservoir completion; and a long-term component where impacts are driven by area growth.

According to Groesbeck, within five years of reservoir completion, the Sand Hollow RA would attract approximately 100,000 annual visitors who would spend an average of about \$21 per visitor day.<sup>4</sup> Based on these assumptions, the Sand Hollow RA would have an impact of approximately 77 jobs and about \$3.4 million in County income annually.

In the long run, it is assumed that annual visitor days reach 500,000 with average expenditures of approximately \$26 per visitor day. Under these conditions, Sand Hollow would be associated with as much as 478.7 jobs and more than \$21.2 million in County income annually.

Visitor day estimates and expenditures patterns listed in the analysis are in line with those of similar state parks. Like these other parks, Sand Hollow will positively impact Washington County's economy.

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<sup>4</sup> Note that this figure is virtually identical to the average expenditure per person, per day estimate for survey results found in the Utah Division of Parks and Recreation's March 2001 *Sand Hollow Recreation Area Potential User Survey Report*, a copy of which is included in Appendix A.

## VIII. ISSUES AND RECOMMENDATIONS

The planning team recommends that the Sand Hollow RA be added to the state park system under the auspices of State Parks. As with Quail Creek State Park, the Water District will be the property administrator and will assist State Parks with the development of proposed recreation facilities near the **reservoir**. State Parks will be responsible for day-to-day *management* of proposed recreational activities and facilities at the reservoir. BLM and State Parks will seek Congressional support for at least one-third of the development costs associated with proposed dispersed recreation facilities and programs in the Sand Hollow RA's 16,564 acre **Sand Mountain** area. These agencies will also share day-to-day recreation management responsibilities for this area.

With these initial recommendations as a baseline, the planning team identified actions to effectively manage recreation activities at the Sand Hollow RA. A number of issues concerning recreation uses, policies, activities and programs as well as needed facilities and staffing were addressed in this plan. Team recommendations were aggregated into six primary issue areas which are: surface boating and personal watercraft (PWC) recreation, fishing and wildlife recreation, non-motorized recreation, motorized recreation, operations management and facilities development.

### Recreation Issue Areas:

- T Surface Boating and Personal Watercraft (PWC)
- T Fishing and Wildlife
- T Non-Motorized Use
- T Motorized Use
- T Operations Management
- T Facilities Development

The team expanded its role to include focus groups or subcommittees consisting of users, interested individuals and agency experts. These subcommittees provided the core issues from

which the planning team developed recommendations for managing recreation activities in the area. Under this approach, the plan taps into the expertise of users, recreation officials and other interested parties to effectively capture the recreating public's needs. The public provided additional input through public meetings and opinion surveys (see Appendix A). The recommendations reflect the public's needs.

A number of constraints (e.g., available funding, interagency regulations, sufficiency of staff, etc.) will need to be addressed prior to issue resolution. Team members, planning staff and agency partners identified some of the limiting factors that may hinder implementation of a specific team recommendation.

From these issues, and with the constraints in mind, the planning team developed specific recommendations. The team's recommendations were arrived at by consensus of opinion. Furthermore, team members agreed to ensure that recommendations are consistent with the vision elements listed within the mission and vision statements. A discussion of specific team issues and recommendations under each issue area follows.

## **A. SURFACE BOATING AND PERSONAL WATERCRAFT (PWC)**

### ***Overview***

Issues and recommendations for Surface Boating and Personal Watercraft recreation are broken down into two separate categories: Personal Watercraft and Boating. Needs between each of these groups often differ especially over issues such as law enforcement, launch and parking facilities and fees. Some of the issues identified by the Surface Boating and Personal Watercraft

Subcommittee were examined but not adopted by the Planning Team. One such concern involved differential entrance fees for smaller craft. The planning team determined that this is not an issue since fees will most likely be based on a uniform, per vehicle basis irrespective of vehicle size (it was noted that vehicles towing trailers are considered a single unit). Fees will likely be equivalent to other similar reservoirs within the area. PWC recreation and Boating recommendations are as follows.

### **Issue Area: Surface Boating and Personal Watercraft**

#### **Issues and Recommendations:**

##### **I - Personal Watercraft Use**

- Separate launch and parking areas
- Provide adequate shore facilities
- Equal regulatory treatment
- Limits on number of craft on lake
- Provide for special events

##### **II - Boating**

- Size, capacity limitations
- Provide adequate ramp facilities
- On-lake camping

### **A-I. Personal Watercraft (PWC) Recommendations**

#### ***1. If feasible, provide separate, smaller launch ramp and parking area for PWC users.***

PWC users expressed a need for separate launch and parking facilities. Such separate facilities are often beneficial in minimizing conflict and congestion on the main ramp areas. Team members recommend exploring the possibilities of siting and developing a separate PWC ramp on the west dam's southern end (see Plate 7: *Proposed Facilities*). Two constraints will have to

be evaluated regarding feasibility: first, the proposed ramp may be of some distance to the water at low reservoir levels; secondly, the ramp will be in close proximity to the busy commuter road.

***2. Provide necessary shore facilities - accessible, adequate beaches areas, picnic tables, restrooms and sufficient shade and shelter - around appropriate reservoir areas.***

Given the open spaces with minimal existing shade or shelter, it will be necessary to provide shelter, particularly during the hot summer months. Where possible, reservoir facilities such as group pavilions, day use areas/picnic areas and campgrounds should include shade/shelter structures. Also, opportunities exist for the development of natural beach areas on the reservoir's southeastern portion and possibly near the west dam. These beach areas should be in close proximity to restrooms, day use/picnic areas or camping facilities, if feasible. These recommendations should be linked to the development of related facilities.

***3. Education-oriented efforts needed to achieve regulatory compliance.***

Members of the PWC subcommittee expressed a general concern that PWC users are unjustly being singled-out with regards to law enforcement issues. It is recommended that enforcement activities should focus first on user education and secondly on citation issuance to achieve regulatory compliance.

***4. Establish a number of PWCs allowed on the water in relation to the number of boats (2PWCs to 1 boat)***

While there is currently no uniform standard or policy, State Parks will convene a team of boating experts to establish such a ratio and coordinate policy implementation measures. All recommendations should be consistent with State Parks' Strategic Boating Plan.<sup>5</sup> The planning

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<sup>5</sup> Utah Division of Parks and Recreation. (2000). State of Utah: Strategic Boating Plan. (Salt Lake City: Utah DNR, Division of Parks and Recreation).

team recommends that State Parks develop this standard before water-based recreation facilities are completed.

***5. Provide an event area for teaching seminars, demonstrations, product shows and races.***

It was recommended that an event area be provided - as needed - for activities such as water ski tournaments, jet ski races and education programs (to teach correct use of PWCs). A designated area that includes facilities such as classroom with an on-water education area in close proximity to the water should be developed. The proposed group use area may suffice for this need (see Facilities Recommendation #3, “Group Campground”, on p. 52).

It was suggested that designated areas on the reservoir be partitioned during such events. It was felt that such a designation may be possible since Quail Creek is in close proximity and may be capable of handling “turn-away” users during event periods that are impacted from closing portions of the reservoir.

***6. Provide an area for scuba-diving and snorkeling.***

State Parks should identify areas that can safely accommodate scuba-diving and snorkeling. These areas should be designated for such use and should include underwater markers or signs to guide users.

***A-II. Boating Recommendations***

***1. Limitations on the number and size of boats on the lake***

The boating subcommittee suggested that limitations be set for the number and size of boats on the lake. It was felt that reasonable limitation rules will result in a better quality boating experience.

Currently, Quail Creek State Park prohibits boats longer than 26 feet in length. Planning Team members ultimately recommended that **no limit** be established at this time. Rather, it was suggested that both size and capacity issues be dealt with through a facilities development policy: Facilities - parking areas, ramps, etc.- should be designed to limit the size and numbers of boats on the lake commensurate with capacity. As with PWC Recommendation #4 (see p.29), the team recommends that State Parks research this issue and implement a policy before facilities are developed.

## ***2. Provide Adequate Ramp Facilities and Parking***

These facilities should include a wipe down lane and a boat “prep” area. Team members feel that these facilities will help maintain smooth traffic flow within the marina.

## ***3. On-Lake Camping***

The planning team recommended that there be no on-boat camping. However, they suggested that boat mooring would be acceptable for boaters near adjacent designated campgrounds. Team members expressed concern about impacts - water quality being the key concern - from on-lake camping.



## **B. FISHING AND WILDLIFE RECREATION**

### ***Overview***

Issues and recommendations regarding fishing and wildlife recreation were developed by drawing upon the expertise of Utah Division of Wildlife Resources (DWR) personnel, local anglers organizations and interested users. The participating user groups indicated a willingness to donate time and expertise in the implementation of the recommended actions. The recommendations adopted by the planning team are as follows.

### **Issue Area: Fishing and Wildlife Recreation**

#### **Issues and Recommendations:**

- Designate wakeless areas for fishing and wildlife viewing
- Placement of structures to support fish habitat
- Stock viable fish species

### ***1. Designate a portion of the lake wakeless to protect waterfowl and allow a better fishing experience.***

The planning team recommends that such a wakeless area be designated BEFORE the lake is opened to ensure clarity with visitor expectations. It was suggested that a wakeless area be designated near the north dam (see Plate 7: *Proposed Facilities*) for this purpose.

### ***2. Allow anglers groups or other interested parties the opportunity to place in the wakeless area, structure and habitat that would allow small fish and waterfowl safety and cover.***

One such group - Southern Utah Anglers Association - is willing to help implement this recommendation. These structures should be installed before the reservoir fills for two reasons. First, their installation and placement will be much more efficient and economical. Secondly, and more important, these structures will need to be in place to ensure survival of stocked fish. Construction and installation costs can be minimized by implementing this recommendation as part of a donated community-service project.

### ***3. Allow DWR to stock the lake with viable fish species.***

DWR experts will need to assume this responsibility by virtue of their statutory authority. Suggested fish for stocking would be only those that would survive in warm water, for instance: bass, bluegill and possibly wiper (a sterile cross between the white bass and the striped bass). It was also suggested that DWR stock some type of shad as an additional forage fish for the largemouth bass and the wiper. DWR holds a 1086 acre foot conservation pool that will assure sufficient water remains in the reservoir to maintain survival of fish populations.

#### ***Constraints***

The recommendations adopted by the planning team are tempered by some constraints. First, liability issues may accompany the placement of structures to support fish habitat. Wakeless speeds are essential in these areas to help minimize this risk. Secondly, all fish introduced must be federally approved (in accordance with the current management programs regarding threatened and endangered Virgin River fish species). The public should also be made aware that fish management protocols may require keeping the reservoir closed to fishing until adequate fish populations have been established. The DWR should work with this plan's managing partners to prepare a plan for fish introduction.

### **C. NON-MOTORIZED RECREATION**

#### ***Overview***

Issues and recommendations regarding non-motorized recreation include the input of equestrian enthusiasts, hikers, and mountain bikers. The area of primary focus is Sand Mountain. The Planning Team supports the concept of open use in the Sand Mountain area. Consequently, a wide variety of use - equestrian, motorized, mountain biking, hiking - would be included in the recreation mix. The team determined that major trail improvements - paving, or graveling, to accommodate a specific use - would be difficult to maintain, and may prove too costly for any one type of activity. Rather, it was felt that development should be limited and commensurate with the area's natural features. Information will be key to providing Sand Mountain users with a safe and satisfying experience. With these constraints in mind, the planning team adopted the following non-motorized recommendations.

#### **Issue Area: Non-Motorized Recreation**

##### Issues and Recommendations:

- Provide information/education to minimize potential conflicts
- Provide adequate parking/staging areas
- Needed signs and information
- Trail Etiquette
- Provide equestrian hitching posts
- Explore need for equestrian camping
- Promote Sand Mountain events

#### ***1. Provide information/education to minimize conflicting use in the area***

Visitors often express a need for more detailed information about area trails, campgrounds and related facilities. Given Sand Mountain's large area, it is impractical and inconsistent to prescribe and enforce rules confining various types of acceptable "open" uses to specifically defined areas. Rather, to minimize potential conflict, it was felt that information should be provided at entrance/access points that: 1) provides an inventory of the different types of uses that occur on Sand Mountain; and 2) highlights those areas most conducive to the particular experience sought by the visitor.

## ***2. Provide adequate parking and staging areas for all users***

Team members noted that adequate parking should be provided for the various groups who will use Sand Mountain. These areas should also allow equestrian and motorized users to stage (unload/load) horses or OHVs to access area trails (see Motorized Recommendation #1 on p. 38 below). These areas should provide adequate parking space, informational signing an all-weather surface (preferably graded gravel), boundary fencing, restrooms and garbage facilities.

Both Equestrian and motorized users recommend that such parking/staging areas be provided at the following points (see Plate 6: *Potential Recreation Opportunities*):

- C The east side of Sand Mountain, south of Hurricane near Sky Ranch;
- C The area's west side near the Washington Fields diversion dam.

These areas should provide adequate space and turn-around area for horse trailers. They should include hitching posts and adequate information about trails, distances, potential weather conditions, available water supplies, etc. Several user groups recommend that these outlying parking/staging areas should be unpaved and limited in scope of development to minimize impact on the area.

## ***3. Signs and information indicating present location, destinations, distances, severity, available water and points of interest should be posted at primary access points.***

Information (including other media such as topographic maps) should be provided at trail heads, staging areas or other relevant locations. The Sand Hollow RA's information and mapping needs should be evaluated and accurate, high-quality information should be developed appropriately. State Parks should work with BLM as well as interested users to assess needs and implement actions. A number of the following steps may need to be considered:

- C Utilize GPS work to map all relevant roads, trails, features and facilities; also determine trail distances
- C Evaluate map and brochure needs
- C Include potential water resources - a concern for equestrian users

- C Seek partnerships with appropriate entities to obtain input and funding for the production of maps
- C Update (as needed) all relevant information; ensure that it is accurate
- C Ensure that visitors are also provided with a sufficient amount of educational information about the Sand Hollow RA's natural features, including: area history; geology; wildlife; botany; paleontology; cultural resources; and other information as applicable

***4. Install signs/information concerning trail etiquette at access points, along trails and at other appropriate locations.***

Signs are also needed to educate trail users about proper conduct to minimize potential conflicts. This is especially critical for equestrian users. Horses often are “spooked” by mountain bikers, and motorized users. Such encounters are potentially dangerous. Consequently, team members feel that efforts to educate and inform via appropriate signage or information are needed to minimize such risks. It was suggested that the managing partners install signage similar to that found in equestrian areas at Snow Canyon State Park and Zion National Park. It was also recommended that “Leave No Trace” information be provided as well. Organizations such as Back Country Horsemen are willing to assist in the development of appropriate signage/information.

***5. Equestrian hitching posts should also be installed at key destinations such as the Dominguez-Escalante Trail overlook and other interesting scenic viewpoints along Rim Trail.***

Tying horses to small bushes is neither ecologically sound nor practical. Therefore, hitching posts should be installed at dispersed destination points in addition to parking/staging areas. Locations include the Dominguez-Escalante Trail overlook, and the Warner Valley overlook along the Rim Trail. Other relevant points should also be identified. Equestrian groups such as the Back Country Horsemen are willing to help implement this recommendation.

***6. Explore potential opportunities for a separate equestrian campground.***

Team members noted the potential conflicts between equestrian and non-equestrian campers. A separate camping facility may be needed to minimize conflict. BLM and State Parks will work with equestrian users to assess needs and identify potential sites. It was noted that BLM has the option of constructing primitive campsites that may accommodate equestrian users in the southern portion of the area.

***7. Continue to Utilize Sand Mountain for Recreational Events***

The team supports continued use of the Sand Mountain area for special events such as the annual Color Country Endurance Ride for equestrian users (note that other motorized events are typically held in the area as well). It is crucial that event planning and coordination efforts effectively minimize potential conflicts. The planning team recommends that with collaborative management of the area, it is essential that only one entity issue fees/permits - no multiple fees from different agencies for such events.

## **D. MOTORIZED RECREATION**

### ***Overview***

Recommendations for motorized use were identified from issues raised by a subcommittee consisting of motorcyclists, four-wheeler (OHV) enthusiasts and four-wheel drive (truck/jeep) users. Like the non-motorized recommendations, the primary area of focus is Sand Mountain. Information, education and limited development of the Sand Mountain area are the central themes with each of the following motorized recommendations adopted by the team.

### **Issue Area: Motorized Recreation**

#### **Issues and Recommendations:**

- Facilities needs: staging areas, campground, information, day-use
- Fees
- Regulatory Enforcement
- Wildlife/Habitat Impacts
- Information/Education

### ***1. Facilities needed for motorized recreational use include staging areas, an OHV campground, information kiosks, and day-use areas***

#### ***< Staging Areas***

It is recommended that two multi-user parking/staging areas be provided (see Non-Motorized Recommendation #2, p. 35). As mentioned above, two areas on BLM administered lands were identified: one located at the Washington Dam access on the area's west side; and the second, south of Hurricane, Utah on the east side of the proposed recreation area (Refer to Plate 6: *Potential Recreation Opportunities*). An easy access-route from the Washington Dam staging area may need to be identified and provided. Staging areas should provide adequate parking space, informational signing, an all-weather surface (preferably graded gravel), boundary fencing, restrooms and garbage facilities.

Team members noted that there may be increased traffic flow on 700 West Street in Hurricane - the road that leads past Sky Ranch to the proposed east-side dispersed staging area. The team recommends that Hurricane and Washington County evaluate and plan for anticipated increases

in traffic volume due to Sand Hollow as well as other development that is slated to occur in the area.

#### **< OHV Campground**

An OHV campground and associated parking/staging area should be provided at the base of the traditional dune access point at the southwest corner of the reservoir (see Plate 7: *Proposed Facilities*). The campground should be relatively primitive with designated camp sites (some useable by large motorhomes), all-weather travel surface, defined perimeter boundary, garbage and restroom facilities, minimal shade structures, and informational signing. This site would be accessed from the Sand Hollow public road system and maintained by State Parks under its proposed fee system.

This area may be impacted by the proposed Southern Corridor road alignment running eastward from the Warner Valley/Washington Diversion Dam area west of the Sand Hollow RA boundary. Impacts may affect access between the proposed OHV campground and the reservoir area. The alignment may also make it difficult to control dispersed staging and access of Sand Mountain. The team recommends the BLM and State Parks coordinate with the Southern Corridor Task Force to minimize potential impacts.

There are two small parcels of private land located in section 36, T. 42 S., R. 14 W. that may be within the proposed campground site (see Plate 5: *Land Ownership*). As noted above, the team recommends that BLM and/or the State seek ownership/control of uses on such in-holdings by acquisition, exchange, agreement, donation or other such mechanisms.

#### **< Information Areas**

An informational area with posted regulations and map availability should be provided at the OHV campground and parking/staging areas. Visitors would be notified that this is a multi-user recreation area where both motorized and non-motorized recreation is acceptable. Users having a specific conflict with motorized use would be informed of other areas where motorized use is not allowed and their recreational expectations can be fulfilled. Motorized users would be



advised of proper etiquette for non-motorized users such as equestrian, mountain biking, and hiking.

< ***Day-Use Areas***

An OHV-accessible day-use area should be provided near the reservoir's south shore. This area will link Sand Mountain with the reservoir and should include parking, picnic facilities and shade/shelter. OHV activities should be confined to a designated perimeter within this area to avoid conflicts with reservoir users.

It is also noted that a private entity is proposing construction of a motocross track outside of area boundaries but in close proximity to the Washington Dam access area. Team members do not object to this proposal as long as the activity doesn't conflict with the proposed staging areas. The team recommends BLM coordinate with State Parks and the Water District regarding all potential activities in proximity to the Sand Hollow RA's boundaries.

< ***OHV Facilities: General Comments***

In general, the placement of facilities for motorized users should be segregated as much as practical from facilities for non-motorized users to help minimize potential conflicts and help ensure visitor expectations are met.

Finally, there are concerns of how to handle the target and recreational shooting (particularly) in the Washington Dam area of the Sand Mountain SRMA. To ensure visitor safety, the team recommends closure to indiscriminate shooting on public lands within the designated Sand Hollow RA boundaries. Specifically, BLM and State Parks should work with the appropriate local entity - cities, Washington County, etc. to evaluate relevant ordinances and curb shooting in certain areas (staging areas, for example). Hunting should also be evaluated in terms of visitor safety. Any changes to current hunting rules will need to be coordinated with the DWR.

## ***2. Fees for motorized use***

It is recommended that expenditures for facilities including the parking/staging areas and the OHV campground be kept to a minimum to help ensure low fees. The fee structure should reflect the level of services provided; higher fees to use the more developed portions of the Sand Hollow RA; lower fees for dispersed, undeveloped areas such as Sand Mountain. It should be noted that any fee structure will need to be evaluated and approved by the BLM and/or the State Parks Board.

Where fees will be required, establish a daily use fee per vehicle and a yearly permit-type pass. The OHV subcommittee recommends that a daily entrance fee range from \$1.00 to \$5.00 per vehicle (See Operations Management Recommendation #3, p. 48). Fee collection at the proposed Washington fields and Hurricane staging areas could be voluntary utilizing a metal deposit box (a.k.a. “Iron Ranger”) for fees paid. Alternatively, an annual pass could also be instituted for OHV users entering the area from remote access points.

Historical users oppose fees for use in dispersed dune areas where they have previously not had to pay. Uniform enforcement of a collection system in these areas would be nearly impossible and therefore should be mostly voluntary.

Finally, fees should be standardized, i.e., levied on a singular, central basis and should allow access to all designated areas. Fees should also be standardized for competitive events. Competitive events may result in temporary but exclusive use in certain areas.

## ***3. Enforcement of State and Federal Regulations***

### ***< Make regulations clear; Emphasize education with enforcement***

Enforced regulations regarding OHV use for which a user may be subject to should be posted at informational, camping, and parking/staging areas. Enforceable regulations should be clearly

stated and should explicitly cite the enforcement actions that may be anticipated. Enforcement activities - particularly those in the dispersed area south of the OHV campground - should focus first on user education and secondly on citation issuance to achieve regulatory compliance.

< ***Vehicle flags***

Currently, state law requires flags for *all* OHVs operating on sand dune areas (41-22-10.7[1][d], Utah Code, Annotated). However, concern was expressed about the safety and efficacy of flags on motorcycles. Any exemption to existing statutory motorcycle flag requirements in sand dune areas would require modification to current law and would thus fall under the purview of the Utah State Legislature. It is recommended that this issue be taken up for discussion by the State Parks Off-Highway Vehicle Advisory Council for clarification about the relevance and impact of this law to the Sand Hollow RA and to explore potential options.

< ***Utilize OHV groups and clubs to educate users***

Utilize user groups and clubs, both motorized and non-motorized to help educate users. Such groups often help improve voluntary compliance with regulations.

< ***Prohibit “pallet bonfires”***

OHV users express concern about the random burning of discarded wooden pallets in the Sand Mountain area. Nails from the residual debris damage tires and pose additional safety hazards. Moreover, these fires often leave unsightly litter and charred landscapes. It is recommended that the use of pallets for fire building be prohibited. BLM may recommend prohibitions to such types of fire in certain areas. BLM should also consider general limitations on fire in dispersed areas.

#### ***4. Impact of environmental, species, and habitat issues on motorized recreation***

< ***Maintain “open” designation for Sand Mountain area***

The BLM’s “open” designation providing motorized access on the Sand Hollow RA’s Sand

Mountain parcel needs to be protected. Motorized users express concern that Sand Mountain is the only sufficient area in Washington County currently classified as open for motorized recreation by the controlling land use agency. BLM and State Parks should work with Congress to secure a permanent open designation.

As mentioned above, recreation activities should be consistent and supportive of BLM's St. George Field Office 1999 Resource Management Plan/Record of Decision. BLM's responsibility would be to evaluate potential developments in the Sand Mountain area and to consider appropriate mitigation strategies under NEPA.

## ***5. Area users should be adequately informed and educated about regulations and other OHV-related issues***

### ***< Signs and information: General***

Install adequate signs at kiosks and staging areas to inform users of general regulations, restrictions in specific areas, resource concerns, and proper user etiquette. Make educational literature such as "Tread Lightly" pamphlets available. Provide information about potential resource conflicts within the area. Also, discourage littering and vandalism.

### ***< Signs for routes and other open areas***

Install signs designating open areas and identifying short, specific routes for those wanting to stay close to the campground or staging areas.

### ***< Maps***

Make maps of the entire area available. Maps should display facilities, main trails, resource concerns, and recommended use areas (see Non-Motorized Recommendation #3, pp. 35-36). Maps should also include potential routes or trails that link Sand Hollow with other recreation opportunities within the area.

< ***Sign Maintenance, Content***

Signs away from camping or staging areas should be minimal and easily replaced. Signs should identify specific resource concerns and identify the area's boundary. Signs identifying specific routes may be necessary but should be minimal.

< ***Signs should identify “recommended” use areas***

Identify areas where specific uses could be recommended. This would include non-motorized uses as well as motorized. Recommended areas for motorized users would include the slickrock area on the west side of Sand Mountain as a Jeep area; the slick rock area near the reservoir's south end as a Motorcycle Trials area; and the sand dune areas as particularly suitable for 4-Wheelers (see Plate 6: *Potential Recreation Opportunities*). These areas would be recommended but remain open for all users.

< ***Establish voluntary trail patrols***

Utilize Trail Patrol concepts and local user groups to help educate users and monitor impacts. State Parks is also willing to institute a volunteer trail program for the area. Volunteer groups could "adopt" trail signs and replace them as necessary. Motorized users should be informed that use of the area is a privilege and they are welcome to use it but must take care of it.

< ***Designate an OHV training area***

An area for training and instructing proper use of OHVs should be established. It is recommended that a portion of land below the west dam near the proposed State Park maintenance facilities be set aside and established as an OHV training area (see Plate 7: *Proposed Facilities*).

< ***Install interpretive signing***

Interpretative signing should be considered and installed where appropriate. For example, interpretive signs concerning area geology, wildlife, etc., could be installed at the Escalante Trail Overlook. BLM will assist with the development of information and signage on Sand Mountain.

< ***Inform users of linkages with trails outside the area***

Provisions to link with current and planned travel routes outside the Sand Hollow boundaries should be included. It is suggested that State Parks and BLM work with user's groups to identify trails or routes linking Sand Hollow with other points of interest. This could be done with informational signing at access/entrance points, maps or trail signs.

## **E. OPERATIONS MANAGEMENT**

### ***Overview***

As previously mentioned, the planning team recommends that the Sand Hollow RA be added to the state park system under the auspices of State Parks. It will require approximately \$513,000 to initiate operations and maintenance of the Sand Hollow RA.

### **Issue Area: Operations Management**

Issues and Recommendations:

- Ongoing operations & maintenance needs
- One-time operations & maintenance needs
- Fees

As with Quail Creek State Park, the Water District will administer lands and facilities around the Sand Hollow RA's Sand Hollow Reservoir area. Day-to-day management of these lands and facilities will be the responsibility of State Parks. Similarly, while BLM will continue to administer the Sand Hollow RA's Sand Mountain parcel, both BLM and State Parks will jointly manage recreation activities within this area. Consequently, this plan provides recommendations on personnel and expenditures required to maintain and operate Sand Hollow Reservoir and its associated facilities. This section also includes an analysis of operations and maintenance requirements for cooperative management of Sand Mountain.

A subcommittee led by State Parks was charged with the responsibility of identifying these operation and management needs. Recommendations include an analysis of required personnel to effectively manage the entire reservoir area. It is also expected that management responsibilities will be shared with BLM in the Sand Hollow RA's Sand Mountain area under a Cooperative Management Agreement.

### ***1. On-Going Expenditures Required for Operations and Maintenance***

It was determined that an annual budget of approximately \$340,900 will be required for State Parks to operate and maintain the area's developed facilities. These on-going expenditures are allocated among three primary areas: personnel, current expenses (office equipment, phones, supplies, etc.) and travel. These categories are displayed in table 1 above. Personnel accounts

**Table 1:** Operations and Maintenance Expenditures for Developed Facilities

<b>On-Going Expenditures: <i>Personal Services</i></b>		
<b>Position</b>	<b>Full-Time Equivalents (F.T.E.s)</b>	<b>Required Budgetary Allotment</b>
Assistant Park Manager	1	\$51,561
Park Ranger II	1	\$44,884
Park Ranger II	1	\$44,884
Journey Maintenance Specialist	1	\$42,498
Seasonal Positions	4.5	\$79,582
<b>Total Personal Services:</b>	<b>8.5</b>	<b>\$263,409</b>

<b>On-Going Expenditures: <i>Travel and Current Expenses</i></b>	
<b>Category</b>	<b>Required Budgetary Allotment</b>
Travel Expense	\$2,500
Current Expense (phones, office equip., supplies, etc.)	\$75,000
<b>Total Other On-Going Expenses:</b>	<b>\$77,500</b>

<b>One-Time Expenditures</b>		
<b>Item</b>	<b>Quantity</b>	<b>Required Budgetary Allotment</b>
Handheld Radios	3	\$4,200
Mobile Radios	3	\$5,100
Boating Radio	1	\$1,700
Tractor and Attachments	1	\$25,000
Shop Tools	Assorted	\$15,000
Maintenance Vehicle	1	\$28,000
Ranger Vehicles	2	\$45,000
Boat and Trailer	1	\$35,800
OHV and Trailer	2	\$12,400
<b>Total One-Time Expenses:</b>		<b>\$172,200</b>

for approximately 77 percent of this required amount: Sand Hollow will require at least 8.5 full-time equivalent (FTE) positions. Total annual personnel expenditures are estimated to be \$263,409. Other on-going expenditures are estimated to be about \$75,000 for current expenses and about \$2,500 for travel.

BLM will identify staffing needs and submit a request for the funding of needed positions to assist with management of its Sand Mountain parcel. As appropriate, State Parks and the Water District are willing to jointly seek Congressional support for any such request. State Parks will



also utilize available funds from its internal OHV program to help implement a BLM staffing proposal. BLM will also provide assistance in implementing recommendations for Sand Mountain recreational use - trail development, signing, kiosks, staging areas and other related activities - by utilizing its St. George Field Office planning staff as funding levels and workload priorities allow as well as through the use of grant monies and volunteer personnel.

## ***2. One-Time Expenditures***

More than \$172,000 will be needed to acquire radios, maintenance equipment and vehicles to operate and maintain developed facilities at Sand Hollow. These necessary one-time expenditures are also listed in Table 1.

## ***3. Fees***

The planning team listed two overarching criteria to guide area fee collection: first, fees should be commensurate with the level of services provided and; secondly, fees should be simple to understand and should not be burdensome or redundant.

Since most development will occur near the reservoir area and since such development and associated recreational opportunities are “new” to the area, it is not unreasonable to expect that fees will be charged for use. However, charging fees in open areas that have traditionally been “free” to users - as is the case with the Sand Mountain parcel - is an area of concern. Under the team’s guiding fee criteria - fees for services provided and simplicity - we examine potential fee structures at both the developed recreational facilities near the reservoir and on BLM’s Sand Mountain parcel.

### ***< Fees for developed recreation***

For developed recreation facilities (see Plate 7: *Proposed Facilities* below), it is recommended that the plan adopt a typical Utah State Parks fee schedule. Fees would be commensurate with the level of development provided. Any fee structure will need to be evaluated and approved by the BLM and/or the State Parks Board.

**< Fees for “dispersed” recreation in the Sand Mountain area**

Since fees have not been levied for use in BLM’s Sand Mountain SRMA, many users express concern about the institution of a fee policy. On the other side of the argument, if an area-wide fee is not charged, there is concern that individuals may enter and use developed facilities by accessing remote locations on Sand Mountain. Moreover, several development items (signs, parking/staging areas, restrooms) are recommended for Sand Mountain. Allowing free entrance would place further strains on the managing partner’s ability to cover the costs of providing desired development items.

Consequently, this issue will need more review. Team members recommend that existing fee structures for similar sites be evaluated. In the event that a fee structure is adopted, the team recommended that users first be educated - through education or information at designated fee collection areas - about why such a policy is needed and how monies are distributed. Secondly, an area-wide fee would be charged to include Sand Mountain as well as the reservoir area. The team realizes that fees will be difficult to collect given the large number of access points to Sand Mountain.

An area-wide fee may take the form of an annual “permit” or “pass”(see also Motorized Recommendation #2 on p. 41) or a voluntary system with collection boxes (“Iron Rangers”) at designated locations. It is also recommended that a single agency issue fees, annual passes or event permits to minimize duplication and

enhance customer service (see Non-Motorized Recommendation #7 on p.37).

The team also recommends (federal) legislation be drafted creating a jointly-managed account that allows revenues to be ploughed-back into the Sand Hollow RA.

**F. FACILITIES DEVELOPMENT****Issue Area: Facilities Development**

Issues and Recommendations:

-Proposed Reservoir Facilities:

-Campgrounds

-Group Sites

-Marina Facilities

-Day Use Areas

-Miscellaneous Facility Needs

-Proposed Sand Mountain Facilities:

***Overview***

The Planning Team's mission statement stipulates that facilities should both meet the various user needs and minimize potential user/resource conflicts. The team's proposed facilities recommendations will meet this objective. The Sand Hollow RA will contain include two separate lakeside campgrounds, a third OHV campground on the border of Sand Mountain, as well as numerous day-use facilities, staging areas, marina facilities and group use sites to meet the needs of water-based users, OHV enthusiasts and non-motorized groups. The proposed design should minimize conflict among each of these groups. Moreover, most developmental impacts will be confined to the Water District's reservoir area with minimal proposed development on BLM's Sand Mountain.

An analysis of needed facilities was conducted by a Facilities Development Subcommittee comprised of Planning Team members and representatives from the Water District and State Parks. The facilities recommendations adopted by the team address the relevant issues raised in the recreation-related areas above. Moreover, they are congruous with public input: from user groups, opinion surveys and from the public at large. It is estimated that construction costs for the proposed facilities will be approximately \$7 million. A three-way partnership between the Water District, BLM and State Parks will be essential in securing necessary project funds.

The Team's Facilities and Development subcommittee focused on identifying needed facilities near the reservoir site. Facilities for the area's Sand Mountain parcel were previously identified in the Motorized, Non-Motorized and Fishing/Wildlife recommendations presented above. This section first provides an overview of recommended facilities at the reservoir area. It then briefly summarizes the recommended Sand Mountain facilities proposed by the various recreation subcommittees.

***F-I. Proposed Reservoir Facilities (see Plate 7 for location of proposed facilities discussed below)***

### **1. Full Hookup Campground Near Marina**

The team recommended that a 25 - 30 site campground be developed in close proximity to the boat ramp/marina facilities with an adequate view of the reservoir. This campground “loop” will be located on a knoll in the Sand Hollow RA’s northwest corner, approximately 300 yards from the proposed marina/boat ramp area. The campground will be sited approximately 20 feet above the top of the west dam’s spillway and should therefore provide visitors with a pleasant view of the reservoir. Moreover, the proposed site - on the knoll area - will serve as a natural buffer since it is located some distance from adjacent private lands.

This campground will accommodate users desiring to be within close proximity of both the marina and the reservoir. It will include full hookups (water, power, sewer), and a restroom with flush toilets and showers. Campground sites will allow recreational vehicles (R.V.s) “pull-through” access and will also include fire pits and picnic tables with shelters.

### **2. Beachfront Campground**

The team recommends development of a 25 - 30 site campground on the reservoir’s southeastern shore. This campground loop will provide visitors with easy access to the area’s sandy beaches. Day use areas are also in close proximity to this site.

Like the Marina Campground, sites will allow recreational vehicles (R.V.s) “pull-through” access and will also include fire pits and picnic tables with shelters as well as a restroom with flush toilets and showers. However, no utility hookups will be provided. As was noted in the Boating and Personal Watercraft recommendations, this area may provide boat mooring for campers located near the water’s edge. Also, in the event that the proposed OHV Campground is not constructed, OHV users would be provided access to this facility (See Sand Mountain Facilities Recommendation #1 on p.55) .

### **3. Group Campground**

A group campsite will be developed on the reservoir’s east side in close proximity to the beach.

The site will accommodate groups of 100-200 individuals and will include covered pavilions with tables and grills, a restroom with showers and a parking area for autos and R.V.s. This area will provide visitors with easy access to the area's sandy beaches and adjacent day use areas. As recommended above, adequate shade and shelter will be a key issue at this site for use during the hot summer months. Restrooms should also be in close proximity to the facilities.

Team members also recommend that this area be used for water-related events and training. As noted in PWC recommendation #5, an event area should be provided - as needed - for activities such as water ski tournaments, jet ski races and education programs (to teach correct use of PWCs). A designated area that can serve as a "classroom" with an on-water education area in close proximity to the water should also be developed. The team recommends that this group use area be developed and utilized to meet these needs.

#### **4. Marina**

The marina, located on the west dam's northern portion will include a five-lane boat ramp, a 150 stall parking area, a multipurpose office/concession facility and a dry-dock area. It is recommended that a maintenance yard also be included on the dam's southern end.

The five-lane boat ramp will be constructed on a 12 percent grade and will provide launch access to a lake elevation of 3,010 ft. - 50 feet below the 3,060 ft. reservoir capacity level. Boating and PWC recommendations adopted by the planning team suggest exploring the feasibility of the siting and development of a separate PWC ramp on the southeast portion of the west dam (as discussed in PWC recommendation #1 above). The recommended boat wipe down/"prep" lane will also be constructed as part of the marina/ramp area. This lane will be located at the top of the ramp running on a line perpendicular to the ramp structure. Finally, marina facilities - parking areas, ramps, etc.- should be designed to meet designated lake capacity and size limitations set by State Parks.

Parking will run from a knoll north of the proposed ramp southward parallel to the west dam.

Office and concession facilities will be located near this knoll. In addition to meeting the needs of staff, office facilities should provide visitors with adequate information (brochures, maps, regulations, etc.) about recreation opportunities within the entire area. As mentioned in the team's vision statement, private concession opportunities should be provided - where appropriate - to meet the needs of the various recreation users at the site. The team felt concession services such as convenience retail items (e.g., ice, drinks, food, etc.), boat/PWC rentals and other related items would be appropriate. It was also recommended that the planning partners explore the feasibility of fuel sales on or near the reservoir. State Parks should work with the Water District to determine the scope of concession services that should be provided.

A maintenance yard should also be provided on the south end of the west dam. This facility can be used for maintenance of agency equipment and for storage of boats, OHVs, and other items.

Finally, a dry-dock should be constructed below the west dam. This area will provide for private storage of boats, PWCs and other watercraft.

## **5. Day Use Areas**

Four separate day use areas will be constructed on the reservoir's southeastern section. These proposed locations capitalize on the reservoir's sparsely vegetated, sandy terrain and should provide excellent access to the reservoir's best beach areas. Moreover, these areas should be designed with enough flexibility to accommodate use in fluctuating lake levels. As recommended earlier, these areas should include shade/shelter structures, picnic areas, adequate parking and adjacent restrooms.

One of these four day-use areas should be accessible to OHV users from Sand Mountain. This would be located near the reservoir's south shore with access from the proposed Sand Mountain OHV campground/staging area. Team members recommend that OHV use near the reservoir be limited to this day use area to avoid conflicts with reservoir users. There is also some concern

that OHV staging may occur from this point. Consequently, the feasibility of effectively implementing this option should be considered as design efforts proceed.

## **6. *Miscellaneous: Roads, Fencing, Contact Stations***

Access to reservoir facilities should be through a minimum number of entrance/exit points. This is needed to provide adequate law enforcement, avoid illegal trespass and ensure more efficient/equitable fee collection. A contact station will be constructed near the marina area on the reservoir's west side. An emergency entrance/exit should also be installed near the group camping area on the east side. All reservoir sites should be accessed from these points. As external "commuter" roads will be developed to provide access to private development near the reservoir, an independent interior road system will need to be constructed around the reservoir's southern half to control access (see Plate 7: *Proposed Facilities*). Likewise, adequate fencing will need to be installed around the Sand Hollow RA's perimeter (especially along the "commuter" roads) to prevent illegal access and potential conflicts with users as well as adjacent private landowners.

## **F-II. Proposed Sand Mountain Facilities**

### **1. OHV Campground**

A 25-site OHV campground and associated parking/staging area should be provided at the sand dune/slickrock area south of the proposed road near the reservoir's south end (see Plate 7: *Proposed Facilities*). This site, located at the base of Sand Mountain's major dune area, will provide OHV-based campers with easy access to the area's major motorized attractions. Moreover, its close proximity to Sand Mountain will also reduce conflict with different types of use such as boaters or water-based visitors. The site will also serve as a major staging point for OHV day users wishing to access the primary dune area.

This area is located on BLM's Sand Mountain SRMA. There are two small parcels of private land located in section 36, T. 42 S., R. 14 W. that would be in or near the preferred location of the campground/staging area (see Plate 5: *Land Ownership*). As mentioned above, these parcels should be accurately identified to evaluate if they could be acquired or if their location would affect facilities development in this area.

Assuming that these lands are not federally owned, a joint effort between State Parks and BLM will be required to negotiate their purchase. The team feels that the Water District should not be encumbered with paying for this area. Consequently, State Parks would be responsible for acquiring these lands and managing this site. Again, if such parcels cannot be acquired, OHV use/access would be permitted at the proposed Beachfront Campground listed on pp. 50-51 above.

As noted earlier, the campground should be relatively primitive with designated camp sites (some useable by large R.V.s), all-weather travel surface, defined perimeter boundary, garbage and flush restroom facilities with showers, adequate shade structures, and informational signing.

The campground and associated staging area should be accessed from the proposed contact



stations via the Sand Hollow RA's interior roads. A structure (e.g., box culvert) should be constructed to provide full size vehicle and trailer access from the reservoir area under the main commuter road. As noted above, OHV users would be allowed to access a designated reservoir day use area adjacent to this proposed structure. However, OHVs would be confined to this location near the reservoir to minimize user conflict.

An informational area with posted regulations and map availability should be provided at the OHV campground/staging area. Visitors would be notified that this is a multi-user recreation area where both motorized and non-motorized recreation is acceptable. Users having a specific conflict with motorized use would be informed of other areas where motorized use is not allowed and their recreational expectations can be fulfilled. Motorized users would be advised of proper etiquette for non-motorized users such as equestrian, mountain biking, and hiking. State Parks will need to work closely with the BLM as well as user groups to formulate rules and regulations governing motorized use in this area.

## ***2. Dispersed Staging Areas***

As mentioned above, two areas on BLM administered lands were identified as proposed remote or "dispersed" staging areas: one located at the Washington Dam access on the area's west side; and the second, south of Hurricane, Utah on the east side of the proposed recreation area (Refer to Plate 6: *Potential Recreation Opportunities*). These staging areas will need to accommodate both equestrian, motorized and other non-motorized users. An easy access-route from the Washington Dam staging area may need to be identified and provided. Staging areas should provide adequate parking space, informational signing, an all-weather surface (preferably graded gravel), boundary fencing, restrooms and garbage facilities.

As mentioned above, information/maps regarding trails, distances, regulations, etiquette, points of interest, linkages to other locations and recommended areas most suitable to each major user group should be provided.

***3. Explore potential opportunities for a separate equestrian campground.***

As recommended earlier, BLM , State Parks and equestrian groups should evaluate the need for a potential equestrian campground. BLM and State Parks will work with equestrian users to assess needs and identify potential sites.

## **IX. CONCLUSION**

This plan is a blueprint to help implement the planning team's recommendations. As such, it outlines the initial steps to be taken in concert with users, local communities and other interested parties to provide needed programs, effectively educate visitors, enhance customer service and properly develop facilities to meet the Sand Hollow RA's wide ranging user needs.

The recommendations contained in this plan conform to the team's mission of providing visitors a safe, satisfying recreational experience, developing facilities that meet user needs and enhancing the area's aesthetic values while minimizing conflict and congestion. This central theme was considered with the development of each recommendation. The recommendations also deal with current trends concerning day use, facility needs and enhancement of education/interpretation efforts. However, it is crucial that adequate funding be received to implement these goals and accommodate visitor needs. As stated earlier, the plan's success is dependent upon the continued support of Sand Hollow RA stakeholders. Stakeholders must continue their efforts to interact with local communities and strive to meet visitor expectations in the midst of a rapidly growing community of recreation-oriented citizens. The recommendations contained within this plan were based upon an open and collaborative process. It is imperative that this collaborative spirit continue as the plan's components are implemented.

It is also imperative that the document be reviewed on a regular basis to ensure its viability, relevance and usefulness. This document has sufficient flexibility to be amended in response to changing resource conditions, visitor needs and expectations, community needs and agency priorities. Such amendments may occur under the guidance of The Washington County Water Conservancy District, the BLM St. George Field Office or the Utah Division of Parks and Recreation working in conjunction with local communities or users groups. Any such changes will include input from Sand Hollow RA visitors, local citizens, community leaders, Sand Hollow RA management or other stakeholders with interests relevant to the operations and maintenance of the area.

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## APPENDIX A

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### Sand Hollow Recreation Area Potential User Survey Report

## APPENDIX B

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### Economic Impact of Recreational Use of the Proposed Sand Hollow Reservoir on Washington County, Utah

## APPENDIX C

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### Public Comments and Responses



### **Public Input: Comments and Responses**

In June 2001, this plan was released to the public for review and comment. During June and July 2001, The District, State Parks and BLM presented the draft plan at various public meetings within the Washington County Area to elicit public input. These meetings included a public hearing in St. George and presentations to the Southern Utah Planning Authorities Council (SUPAC), the Hurricane City Council and the Washington County Commission. Copies of the plan were also made available to the public at large and were available on the Internet. The following is a summary of comments received in response to the Draft Plan. Responses from public entities account for the bulk of comments submitted. All issues raised by the public are summarized below along with the corresponding response.

#### ***Utah Division of Wildlife Resources***

##### ***Comments:***

The Utah Division of Wildlife Resources (UDWR) recommends the plan include a reservoir filling schedule and a water draw-down plan to address fish spawning at both Sand Hollow and Quail Creek Reservoirs. UDWR also recommended that the plan consider keeping the reservoir closed to fishing until a reasonable number of fish have been established to sustain fishing pressure.

UDWR would also like to be included in designing and development of fish habitat and structure in the proposed wakeless area. UDWR is also interested in developing fish habitat during overall reservoir construction in other areas of the lake.

Finally, UDWR proposes an interagency office complex that would provide office space for both their Washington County Field Office and State Parks.

##### ***Response:***

*The Planning Partners believe the reservoir management issues identified by UDWR are beyond the scope of this recreation plan. Rather, these issues should be addressed separately with UDWR and other relevant parties, in accordance with contractual commitments, where applicable.*

*With regards to the development of viable fish populations and habitat, it is acknowledged that this plan should include a recommendation to notify the public that fish management protocols may require keeping the reservoir closed to fishing until adequate fish populations have been established (these recommendations have been incorporated in the latest edition of the plan - see **Constraints, FISHING AND WILDLIFE RECREATION** recommendations, p. 33). It is also suggested that the plan include a statement acknowledging that UDWR holds a 1086 acre foot conservation pool that will assure*

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*sufficient water remains in the reservoir to maintain survival of fish populations. The plan will include information on this point (see recommendation #3, p. 33).*

*State Parks feels that the UDWR request to share office space is a reasonable issue and will be considered. Detailed facilities plans should include this option as a formal facilities development program is prepared.*

### ***Five County Association of Governments***

#### ***Comments:***

The Five County Association of Governments (AOG) expressed concern that the plan does not include a detailed facilities development program that specifically outlines the process for developing specific site plans and designs, delineates the type of expertise that will be required and defines the jurisdiction or entity that will pay for facilities design and development. The AOG also recommends the formulation of an advisory committee to help with long term implementation of plan recommendations.

#### ***Response:***

*While a detailed facilities development program will need to be prepared, such a program is beyond the scope of this recreation plan. Secondly, as with previous planning efforts, the District and State Parks will consider ongoing input from advisory committees, as appropriate.*

### ***Concerns raised by Private Landowners and Hurricane City regarding traffic ingress and egress to the recreation area***

#### ***Response:***

*The District is pursuing additional access routes to Sand Hollow beyond those that currently exist. These include, but may not be limited to, additional routes South from HR 9, extension of the newly constructed "haul road" heading West from Hurricane across the Bench Lake Area, and additional routes heading East from Washington/St. George, possibly in conjunction with the proposed Southern Corridor. The District is sympathetic to concerns of the City of Hurricane regarding financial burdens of transportation infrastructure development and continues to pursue funding and other support for access routes that will minimize such impacts. Project development will also have positive financial impacts as Hurricane City will likely receive economic benefits and thus, additional sources of community income.*